SUBCONTRACT University of California Lawrence Livermore National Laboratory Procurement & Materiel NO. TBD P. O. Box 5012 Livermore, CA 94551 **Subcontractor: University Procurement Representative: TBD** Brandt Esser, Sr. Contract Administrator Phone #: (925) 423-1518 Fax #: (925) 423-8019 E-Mail: esser3@llnl.gov

Introduction

This is a Fixed Price Subcontract for a 1,024 Quad Tiger4 or equivalent cluster (hereinafter called "Thunder"), as further described herein.

The parties to this Subcontract are The Regents of the University of California (hereinafter called "University") and the party identified above as the "Subcontractor."

This is a Subcontract under Prime Contract No. W-7405-ENG-48 between the University and the United States Government (hereinafter called "Government"), represented by the Department of Energy National Nuclear Security Administration (hereinafter called "DOE/NNSA"), for the management and operation of the Lawrence Livermore National Laboratory (hereinafter called "LLNL") and the performance of certain research and development work.

Agreement

The parties agree to perform their respective obligations in accordance with the terms, conditions, and provisions of the attached SCHEDULE OF ARTICLES and any documents referenced or incorporated therein, which together with this Subcontract Signature Page shall collectively constitute the entire Subcontract and shall supersede all prior negotiations, representations, or agreements, whether verbal or written.

	TBD	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
BY:		BY: TBD
TITLE:		TITLE: TBD LLNL Procurement & Materiel
DATE:		DATE:

Signature Page Reg. No.

SCHEDULE OF ARTICLES FOR SUBCONTRACT NO. TBD

ARTICLE 1 – INCORPORATED DOCUMENTS

The following documents and forms are hereby incorporated as a part of this Schedule of Articles of the Subcontract and are attached hereto.

Documents

GENERAL PROVISIONS FOR COMMERCIAL PRICE SUPPLIES AND SERVICES (GPs # 600; 05/23/01) STATEMENT OF WORK

SMALL BUSINESS SUBCONTRACTING PLAN, Dated

SITE SERVICES REQUIREMENTS (SSR ES&H LEVEL 1, 02/14/03)
SECURITY AND SITE ACCESS PROVISIONS (08/01/00)

ARTICLE 2 – SCOPE OF WORK

- A. The Subcontractor shall manufacture, test, and deliver Thunder. The work is more specifically described in the statement of work.
- B. The Subcontractor shall furnish all personnel, supervision, materials, supplies, equipment, tools, facilities, transportation, testing, and other incidental items and services necessary for performance of the work, except for Government Property specified herein to be furnished by the University. The Subcontractor shall deliver the materials, products, supplies, reports and residuals, as specified.
- C. The work shall be performed by the Subcontractor at the Subcontractor's facility located at TBD, at the LLNL, and at other locations approved by the University.

<u>ARTICLE 3 – SAFETY-RELATED REQUIREMENTS</u>

- A. <u>General</u>. The Subcontractor shall comply with all ES&H requirements, training, and associated safety documents referenced, attached, or incorporated to this Subcontract, including any incorporated safety related documents submitted by the Subcontractor and reviewed and accepted by the University. The Subcontractor shall also comply with, and assist the University and the DOE/NNSA in complying with OSHA requirements and applicable University or DOE/NNSA directives identified in this Subcontract.
- B. <u>Safety Standards and Testing</u>. Materials, supplies, and equipment furnished or used by the Subcontractor under this Subcontract shall meet nationally recognized safety standards or be tested by the Subcontractor in a manner demonstrating they are safe for use. All electrical equipment, components, conductors, and other electrical material shall be of a type that is listed, labeled, or tested by a Nationally Recognized Testing Laboratory (NRTL) in accordance with Title 29, Part 1910, *Occupation Safety and Health Standards*, of the Code of Federal Regulations (29 CFR 1910). The Subcontractor shall notify the University Procurement Representative and the University Technical Representative, in writing, of any

materials, supplies, or equipment to be furnished or used under this Subcontract that does not meet these requirements.

ARTICLE 4 – PERIOD OF PERFORMANCE

The work described in ARTICLE 2 - SCOPE OF WORK shall be completed on or before TBD.

ARTICLE 5 – PRICE AND PAYMENT

A. Fixed Price

The Subcontractor shall perform this Subcontract for the total fixed price of \$TBD.

The fixed price stated above does not include, and the University shall not be charged for, any State Sales & Use Tax. The University holds California State Resale Permit No. SR-CHA 21-135323.

B. Invoices

The Subcontractor shall submit its invoice upon completion of the work to the following address.

University of California Lawrence Livermore National Laboratory Attention.: Vendor Payments, L-432 P.O. Box 5001 Livermore, CA 94551

C. Payment Terms

Payment shall be made within 30 days after receipt of the Subcontractor's invoice, upon the University's acceptance of any portion of the work delivered or rendered for which a price is separately stated or an invoice is allowed.

ARTICLE 6 – COORDINATION AND ADMINISTRATION

- A. The University Procurement Representative for this Subcontract is Brandt Esser. All matters relating to the administration, performance and non-technical interpretation of this Subcontract shall be referred to the University Procurement Representative. The Subcontractor shall direct all notices and requests for approval to the University Procurement Representative. The University Procurement Representative will issue any notices or non-technical approvals to the Subcontractor.
- B. The University Technical Representative for this Subcontract is Mark Seager. The University Technical Representative will provide technical direction in connection with the work to be performed under this Subcontract. The term "technical direction" is defined to include (1)

direction to the Subcontractor which assist in the interpretation of drawings, specifications, or technical portions of the work description; and (2) the review and approval of technical reports, drawings, specifications, and information to be delivered by the Subcontractor under the Subcontract, where required. The University Technical Representative will issue all technical direction in writing.

C. The University Technical Representative is not authorized to issue any technical direction which would (1) constitute an assignment of work outside the general scope of the work covered by this Subcontract; (2) change the description of the work to be performed or any applicable drawings, designs, and specifications; (3) change the time or place of performance; the method of shipment or packaging, or the place of inspection, delivery or acceptance; (4) increase the estimated cost for performance of the work or the time required for performance of the work; (5) change any expressed term or condition of the Subcontract; or (6) unreasonably interfere with the Subcontractor's ability to perform and complete the work. Any such change must first be authorized by a written modification to this Subcontract issued by the University Procurement Representative.

ARTICLE 7 – REPORTS

A. Type of Report

The Subcontractor shall prepare and submit the following reports to the University.

B. Distribution of Reports

Distribution of reports shall be separately addressed and transmitted to:

University of California Lawrence Livermore National Laboratory Attention: (Intended Recipient; see below) P.O. Box 808 Livermore, CA 94550 or 7000 East Avenue Livermore, CA 94551

Type of Report	Number of Copies	Recipient
A & B	1	, L-
A	1	, L-
В	6	, L-

With the exception of an authorized representative of DOE/NNSA and those indicated above, the Subcontractor shall not distribute reports of work under this Subcontract to any individual or organization without the prior written approval of the University Procurement Representative.

C. Interim Reports

It is understood that there will be other information exchanged between the parties from time to time. The data may be exchanged directly between the parties concerned; formal reporting and distribution is not required in these cases.

ARTICLE 8 – PROPERTY

A. The Subcontractor shall acquire, and/or the University will furnish to the Subcontractor, the materials, equipment, supplies, and/or tangible personal property items identified below, for use under this Subcontract:

Subcontractor Acquired Property

None

University Furnished Government Property

64 ea. BlueArc Si7500 Silicon Servers and software 64 ea. Net Gear GA 621 PCI64/66 gigabit ethernet HBAs and associated cabling 1 ea. Federated Quadrics switch 960 ea. Quadrics Elan 3 PCI6466 HBAs and associated cabling

B. All property acquired by the Subcontractor and/or furnished by the University shall be identified, utilized, accounted for, and dispositioned in accordance with the clause of the General Provisions entitled GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS). Disposition directions and authorization will be provided by the University's Property Management Department.

ARTICLE 9 – APPROVAL OF TECHNICAL DATA

If this Subcontract requires the Subcontractor to furnish any drawings, specifications, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance or test data, or other technical data for approval by the University prior to Subcontractor performance, the approval of the data by the University shall not relieve the Subcontractor from responsibility for any errors or omissions in such data or from responsibility for complying with the requirements of this Subcontract, except as specified below. Any work done prior to such approval shall be at the Subcontractor's risk.

If the data includes any variations from the Subcontract requirements, the Subcontractor shall describe such variations in writing at the time of submission of the data. If the University approves any such variation(s), a change order to the Subcontract shall be issued by the University and, if appropriate, a bilateral modification to the Subcontract shall be negotiated.

ARTICLE 10 – ASSIGNMENT OF PERSONNEL

It is understood and agreed that the Subcontractor's key technical personnel assigned to this work shall not be reassigned or replaced without prior University approval, except where such circumstances are beyond the reasonable control of the Subcontractor.

<u>ARTICLE 11 – RELEASE OF INFORMATION</u>

Information regarding this Subcontract or the undertaking or any data developed hereunder shall not be released without the University Procurement Representative's prior written approval. The name of the University, LLNL, or the Government shall not be used in any publications, news releases, advertising, speeches, technical papers, photographs, or other releases of information without the University Procurement Representative's prior written approval.

ARTICLE 12 – ACCESS TO LLNL COMPUTER RESOURCES

- A. The performance of this Subcontract may require Subcontractor personnel (including lower-tier subcontractor personnel) to use or connect with LLNL computer resources (i.e., computers or computer networks). Any such access and use shall be in accordance with and subject to LLNL Computer Security Operations (LLNL CSO) requirements, including the following.
 - 1. Approval to access specific LLNL computer resources shall be obtained from the appropriate LLNL Information Systems Security Officer (ISSO), through the University Technical Representative.
 - 2. Access to LLNL computer resources by Subcontractor personnel is only permitted as required to perform the work authorized under this Subcontract. Classified computer resources or information shall not be accessed or attempted to be accessed without specific written authorization from the LLNL CSO. Personal and non-work-related use of LLNL computer resources by Subcontractor personnel is prohibited.
 - 3. Only Subcontractor personnel who are U.S. citizens may access or use LLNL computer resources, unless specific written authorization is granted for each non-U.S. citizen by the LLNL CSO.
 - 4. Only the approved Open Terminal Server (OTS) modem pool method shall be used to access unclassified LLNL resources via modems. All unclassified computer systems with modems other than facsimile machines must be configured with auto-answer turned off. Modems are prohibited on classified systems.
 - 5. All software used by Subcontractor personnel on LLNL computer resources must be appropriately acquired and used according to the applicable licensing agreements.
 - 6. All information or data furnished by the University or obtained from or developed on a LLNL computer resource by Subcontractor personnel shall be treated as

confidential and protected by the Subcontractor to prevent disclosure to any persons other than those authorized by the University.

- Computer passwords used by Subcontractor personnel for LLNL computer resources shall comply with the applicable rules and be protected to prevent disclosure to other persons. If a computer password is disclosed, or disclosure is suspected, the Subcontractor shall immediately notify the University Technical Representative and arrange for replacement of the password.
- 8. The use at the LLNL of any non-LLNL computing or video conferencing equipment with electronic data transfer capabilities (e.g., personal computers, including portables, laptops, electronic notebooks, personal digital assistants, and handhelds) may not be connected to or used to communicate with any LLNL computer resources without the written approval of the University Technical Representative and the LLNL CSO.
- B. These requirements shall be applicable whether such access is at the LLNL, at the Subcontractor's facility, or elsewhere; and shall be applicable to lower-tier subcontractors and their personnel whose work requires access to LLNL computer resources. The Subcontractor shall report any suspected or actual computer security incident as soon as possible to the appropriate ISSO or, if the ISSO is not available, then directly to the LLNL CSO.
- C. The University may monitor the use of LLNL computer resources by network operating software, reviewing the contents of all LLNL computer resources and any computers used to access LLNL computer resources, and other appropriate means.
- D. If the Subcontractor does not comply with the provisions of this article, the University may withdraw the Subcontractor's access to LLNL computer resources. Misuse of LLNL computer resources may be a violation of law and could result in appropriate action, including termination for default and/or criminal prosecution.

<u>ARTICLE 13 – GENERAL PROVISIONS</u>

- A. The clauses incorporated by reference in the attached GENERAL PROVISIONS shall be applicable to this Subcontract based on the value of the Subcontract, the status of the Subcontractor, and the nature and location of the work as indicated in the GENERAL PROVISIONS. As used therein, the term "Seller" shall mean "Subcontractor," and the terms "Purchase Order" and "PO" shall mean "Subcontract."
- B. This Subcontract shall not involve access to or the generation of classified information or access to "limited" or "exclusion" security areas. Accordingly, the clauses listed in the GENERAL PROVISIONS related to such work shall not apply.

- C. This Subcontract is not for the conduct of research, development, or demonstration (RD&D) work, or design work involving non-standard types of construction. Accordingly, the clauses listed in the GENERAL PROVISIONS related to such work shall not apply.
- D. FAR 52.227-14, paragraph (c)(1) is hereby replaced with the following.
 - (c)(1) Data first produced in the performance of this contract.
 - (A) Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer
 - (i) claim to copyright subsisting in scientific and technical articles based on or containing data (published data) first produced in the performance of this contract and published in academic, technical or professional journals, symposia, proceedings or similar works; and
 - (ii) claim to copyright subsisting in computer software first produced in the performance of this contract.
 - (B) The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract.
 - (C) When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office.
 - (D) For computer software, the Contractor will provide the source code, an expanded abstract, the executable object code and the minimum support documentation needed by a competent user to understand and use the software to DOE's Energy Science and Technology Software Center, P.O. Box 1020, Oak Ridge, TN 37831.
 - (E) For published data and computer software as defined in (A) above for which the Contractor has established a claim to copyright, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the Government.
- E. DEAR 927.409 (d)(3) is hereby replaced with the following.
 - (d)(3) The Contractor shall promptly deliver to the Contracting Officer, or to the Patent Counsel designated by the Contracting Officer, a duly executed and approved

instrument fully confirmatory of all rights to which the Government is entitled and other terms pertaining to the computer software to which claim to copyright is made.

ARTICLE 14 – OPEN-SOURCE SOFTWARE

A. All computer software first produced in the performance of this Subcontract shall be open-source software and shall be subject to the terms and conditions of an open-source license. The University and the Subcontractor agree to use the following Berkeley Software Development open-source license template to license said software. (The terms YEAR and OWNER will be replaced in an actual license with the year of copyright and the name of the copyright holder, respectively.)

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Redistribution of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

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B. Open-source software and its license are generally defined as follows for purposes of software delivered under this Subcontract.

1. Free Redistribution

Open-source software is governed by a license that does not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from different sources. The open-source license shall not require a royalty or other fee for such sale.

2. Source Code

Any program shall include source code and must allow distribution in source code or compiled forms. If an actual product is not distributed with source code, there shall be a well-publicized means of obtaining the source code for no more than a reasonable, nominal reproduction cost — preferably by downloading the source code via the Internet. Deliberately obfuscated source code is not allowed. Intermediate forms, such as the output of a preprocessor or translator, are not allowed.

3. Modifications and Derived Works

Open-source software may be modified or changed into a derived work, both of which shall be distributed under the same terms as the license of the original software or base source code.

4. Distribution of the License

The rights attached to the program, including base open-source software, modified open-source software or derived works, shall apply to all to whom the program is redistributed without the need for execution of an additional license by a recipient.

5. Non-Product Specific

Open-source software shall be distributed with rights that do not depend upon being part of a particular program. All parties receiving open-source software, modified open-source software or derived works shall have the same rights as those granted in conjunction with the original software distribution.

6. Non-Contamination of Co-Distributed Software

When open-source software is be distributed with other software that is not open-source software, the open-source software license shall not place restrictions on the latter.

(END OF SCHEDULE OF ARTICLES)